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ABSTRACT

A study investigated the relationship among reading style, instructional method, and reading achievement. Subjects were 213 second-grade students attending a large school in the Philadelphia, Pennsylvania area, with 84 students using a basal reader series with a phonics emphasis, 90 students using a basal reader series with a mixed emphasis, and 39 students using a basal reader series with a whole-word emphasis. Following existing school district procedures, better readers tended to be assigned to the phonics group, the average readers to the mixed group, and the poorer readers to the whole-word group. The Reading Style Inventory was administered to subjects towards the end of the second grade. Results indicated that: (1) Carbo's Reading Styles Inventory was found to distinguish among reading style strengths and preferences of readers; (2) the most successful readers in all three groups showed the highest match (and poorest readers the lowest match) of individual reading styles with instructional treatment; (3) good readers overall had a better chance of being successful readers than poor readers; (4) underachieving readers exhibited significantly poorer auditory and visual strengths than good readers did; and (5) the reading styles of poor readers indicated that they were global, strongly kinesthetic, moderately tactual with good visual and only fair auditory strengths. Findings suggest that the instructional methods that best matched the poor readers' reading styles (Carbo recorded book, individualized, and language experience) were not available to students. (Seven tables and three figures of data are included; 16 references are attached.) (RS)

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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN THE READING STYLES OF SECOND-GRADERS AND THEIR ACHIEVEMENT IN THREE BASAL READER TREATMENTS

Mary Sudzina, Ph. D.

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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN THE READING STYLES OF SECOND-GRADERS AND THEIR ACHIEVEMENT IN THREE BASAL READER TREATMENTS

Mary Sudzina, Ph D

Key Study Findings

- Carbo's Reading Styles Inventory was found to distinguish among reading style strengths and preferences of good, average and poor readers -- and offered clear evidence that students' reading styles should be identified and matched with appropriate or reading-style-compatible instruction.

- The most successful readers in all three groups studied showed the highest match of individual reading styles with instructional treatment.

- The lowest scoring readers show the greatest mismatch between preferred reading styles and instructional treatment.

- When children's reading styles-based recommendations were taken into account -- over the full range of achievement and among several different methods -- significant differences were found between the good and poor readers for the following methods: *phonics*, *whole-word*, *individualized* and *Carbo recorded book*. In all instances, the good readers received the highest recommendations, ranging from "acceptable" for phonics to "highly recommended" for Carbo recorded book.

- Good readers overall had a better chance of being successful readers than poor readers, because: (a) they were better matched with materials and techniques that were compatible with how they preferred to learn, (b) good readers had more strengths, choices, and opportunities to be successful than poorer readers, regardless of their assigned reading treatment.

- The research suggests that learner characteristics interacting with instructional demands, can make a difference in the ease with which children learn to read.

- The study showed that some children can learn to read through a variety of methods. Poor readers, on the other hand, have limited learning options. Poorer readers appear to be "at-risk" students in need of particular reading approaches that are not provided during first and second grade.

- Underachieving readers exhibited significantly poorer auditory and visual strengths than good readers did. Consistent with this finding, poorer readers showed a decided preference for the Fernald method -- a global, tactile method of reading instruction.

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Key Findings -- cont

- Overall *the reading styles of the poor readers indicated that they were global strongly kinesthetic moderately tactual with good visual and only fair auditory strengths.* This finding strongly contradicts the recommendations that suggest that all at-risk students should have or be remediated with a strong program of phonics.

- A strong match with the phonics method requires that students be strongly analytic and possess at least good auditory and fair visual strengths. These were not characteristics exhibited by poor readers in this study.

- Recommended methods that matched the poor readers' reading styles were Carbo recorded book, individualized, and language experience. The whole-word method used most often with poor readers in this study turned out to be only an acceptable match. Phonics was not recommended.

- Findings support Carbo's recommendation that whole-language approaches be incorporated into reading programs for primary children.

Purpose of Study

The purpose of this study was to investigate the relationship among reading style, instructional method and reading achievement. Limited research has been conducted in this area, and none with a "normal" second-grade sample comparing reading style and achievement between and among different basal reading treatments. It was hoped that this research would contribute to our knowledge of "average" students, with no diagnosed deficits, who are nonetheless experiencing difficulties in beginning reading.

Reading style has been defined by Carbo (1980b, 1982) as an individual's learning style when he or she reads, and can include *environmental, emotional, sociological, physiological* and *psychological* stimuli. According to Carbo, if the reading styles of students can be identified, and instructional methods are selected to complement individual's unique characteristics, increased reading achievement will result.

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This study investigated the differences between reading style profiles of good, average, and poor readers in each of the following three popular basal reader programs: (a) phonics, (b) whole-word, and, (c) mixed (phonics and whole-word) It is hypothesized that the mean reading achievement test scores of subjects taught with instructional activities that matched their reading styles, would be significantly higher than those of the subjects who were taught with instructional activities that mismatched their reading styles.

Subject Selection, Procedures, Materials, and Design

Subject Selection

All subjects were second-graders, from one large school, in the Philadelphia area. A total of 213 students comprised the final sample. These students had been receiving instruction since first grade in one of three basal reader series: a basal reader series with a phonics emphasis (n=84); a basal reader series with a mixed emphasis (phonic and whole-word) (n=90); and a basal reader series with a whole-word emphasis (n=39).

Procedures

No attempt was made in this study to match the reading styles of the students. Each student was assigned to one of the three basal reader series, according to procedures established in the school district, and taught with that series during the first and second grades. Assignment to the phonic, whole-word, more mixed emphasis treatments was based on Metropolitan reading achievement scores and teacher recommendations. A one-way analysis of variance between instructional reading level and reading treatment found the groups significantly different from one another ($p < .0001$). Overall, the better readers had been assigned to the phonic group, the average readers to

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the mixed group and the poorer readers to the whole-word group.

Materials

The Reading Style Inventory (RSI) was administered to each subject towards the end of second grade. The RSI is a multiple-choice questionnaire that identifies a youngster's reading style strengths and preferences. RSI reading recommendation scores were compared among achievement levels within the three treatments. Good, average, and poor readers in the *whole-word treatment* were compared according to their RSI recommendations for both the whole-word method; good, average, and poor readers in the *mixed treatment* were compared to their RSI recommendtions for both the phonic and whole-word methods; and good, average, and poor readers in the *phonic treatment* were compared according to their RSI recommendations for phonics.

Design

The study utilized an *ex-post-facto* research design. The dependent variable was a grade-equivalency score on the standardized test of reading achievement. The independent variables were reading style and reading treatment. The data were analyzed using one-way analysis of variance, Pearson's r correlation coefficients, and mean scores and standard deviations.

Findings

Overall -- within each of the three treatments -- *those subjects whose reading styles had been matched by chance during second grade achieved higher mean reading achievement scores than those subjects whose reading styles had been mismatched by chance.* According to RSI recommendations, the best readers in both the whole-word and phonics groups were better matched with their current reading treatment than all other readers in those two groups: both scored in the "recommended" range for their respective methods. All other subjects in both groups received decreasing RSI recommendations for the reading method that had been utilized with them, with the poorest readers in each group having the greatest mismatch with the primary method that had been

utilized during their second-grade reading experience.

Perhaps the most interesting finding was within the mixed treatment group. Again, the reading styles of the best readers had been strongly matched for the reading methods used (phonics and whole-word), purely by chance, during second grade, and the poorest readers received the lowest recommendation scores for those two methods. Comparing the whole-word and phonic methods, it was found that the poorest readers -- those subjects who were reading at least a year below instructional grade level -- were more highly matched for the whole-word method, scoring in a high "acceptable" range, than for the phonic method, which was "not recommended."

As achievement scores increased in the mixed-treatment group, the disparity between the recommended scores for the two methods decreased. Students who were reading at instructional grade level, and those reading one year above, still matched the whole-word method more strongly than the phonics method. The recommendations for the phonics methods were, however, now in the "acceptable" range. The best readers in the mixed-treatment group -- reading at a fifth-grade instructional reading level -- were recommended equally for the phonic and whole-word methods, scoring in the low "recommended" range.

These data suggest that for the poorer readers, the whole-word method was a better reading styles match than the phonic method. On the other hand, as reading achievement increased, the strengths and preferences of good readers indicated their ability to learn effectively with either method.

It bears repeating that this study was designed to assess reading style match/mismatch over the full range of achievement levels within the treatment. Because reading treatment groups were so highly loaded on achievement, it became difficult to separate the effects of achievement and the effects of treatment in each group. For this reason, it became imperative to examine children's reading styles matches and mismatches with reading methods on the basis of overall achievement.

Comparisons of Recommended Reading Methods for Good, Average, and Poor Readers

The popular basal reader treatments under investigation in this study -- phonics and whole-word -- were not highly recommended as anticipated for this group of students. Consequently, the following methods were also considered for analysis: individualized, language-experience, Fernald word tracing, and Carbo recorded book. The three reading treatment groups were reorganized according to Metropolitan reading achievement scores. The purpose was to form groups of good (n=105), average (n=55), and poor (n=53) second grade readers.

A series of one-way anovas and post-hoc procedures revealed significant differences ($p < .05$) between the good and poor readers' reading method recommendations for the phonic, whole-word, individualized, and Carbo recorded-book methods. Additionally, significant differences ($p < .05$) were found between the average and poor readers for the individualized and the Carbo recorded-book method: average readers had the higher recommendation scores for both methods. (See Table 1.)

TABLE 1
ANALYSIS OF VARIANCE:
DIFFERENCES IN MEAN READING METHOD RECOMMENDATIONS BY ACHIEVEMENT

Method	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	Significance
PHONICS					
Between Groups	6.6020	(2)	3.3010	4.502	.0122
Within	153.9707	(210)	.7332		
Total	160.5728	(212)			
WHOLE-WORD					
Between Groups	4.3107	(2)	2.1554	3.405	.0351
Within Groups	132.9287	(210)	.6330		
Total	137.2394	(212)			
INDIVIDUALIZED					
Between Groups	12.0124	(2)	6.0062	6.5161	.0018
Within Groups	193.5651	(210)	.9217		
Total	205.5775	(212)			
LANGUAGE-EXPERIENCE					
Between Groups	1.6819	(2)	.8410	.606	.5464
Within Groups	291.3134	(210)	1.3872		
Total	292.9953	(212)			
FERNALD					
Between Groups	1.5608	(2)	.7804	1.9434	.1458
Within Groups	84.3265	(210)	.4016		
Total	85.8873				
RECORDED BOOK					
Between Groups	5.5785	(2)	2.7893	7.840	.0005
Within Groups	74.7126	(210)	.3558		
Total	80.2911	(212)			

Overall, the rank order of mean reading recommendations followed very similar patterns for the good and poor readers. On the other hand, the Carbo recorded-book method, individualized, and language experience methods were recommended most highly for both groups, while the whole-word, phonics, and Fernald were recommended the least.

TABLE 2
MEAN RSI READING METHOD RECOMMENDATIONS BY READING ACHIEVEMENT

RSI Reading Method	Reading Achievement Level	Mean RSI Score	Standard Deviation
PHONICS	Poor	3.09*	.883
	Average	2.87	.862
	Good	2.67*	.840
WHOLE-WORD	Poor	2.74*	.880
	Average	2.45	.789
	Good	2.39*	.753
INDIVIDUALIZED	Poor	2.28*+	1.116
	Average	1.78+	.956
	Good	1.71*	.874
LANGUAGE-EXPERIENCE	Poor	2.32	1.205
	Average	2.47	1.120
	Good	2.26	1.193
FERNALD	Poor	3.70	.890
	Average	3.87	.579
	Good	3.90	.491
RECORDED BOOK	Poor	1.62*+	.765
	Average	1.31+	.573
	Good	1.23*	.505

RSI Scoring Key:
1=Highly Recommended
2=Recommended
3=Acceptable
4=Not Recommended

*(p < .05) between poor & good readers
+(p < .05) between poor & avg. readers
Poor readers = (n=53)
Average readers = (n=55)
Good readers = (n=105)

In comparison to the poor readers, the good readers, overall, had significantly more reading methods that their RSI profiles categorized as "highly recommended" or "recommended." Moreover, with the exception of the Fernald method, every reading method in this study was recommended more highly for the good readers than for the poor readers.

The reading methods that achieved the rank of "highly recommended" most frequently for the good readers were the Carbo recorded-

book and individualized methods. The language-experience and whole-word methods were "recommended," while phonics the method that was used with the majority of good readers in this investigation, fell into the high acceptable range.

According to RSI profiles, poor readers were also mismatched on their primary method. *The method most highly recommended for the poor readers was the Carbo recorded-book method.* Also recommended for this group were individualized and language-experience approaches. Overall, the reading method most frequently used during the time of this experiment with the poor readers, which was whole-word, scored in the low-acceptable range. Neither phonics, nor the Fernald method, were recommended for these students.

A significant preference for the Fernald method ($p < .05$) -- a global reading method requiring poor to fair visual strengths and strong to moderate tactual preferences -- was found to exist between the poorest readers (n=13), who were reading on a first-grade instructional level, and all other readers in this study. (See Table 3.)

TABLE 3
ANALYSIS OF VARIANCE: PREFERENCES FOR THE FERNALD METHOD BY THE POOREST READERS COMPARED TO ALL OTHER READERS

Source	Degrees of Freedom	Sum of Squares	Mean Squares	F Ratio	Significance
Between Groups	(4)	4.5471	1.1368	2.907	.0227
Within Groups	(208)	81.3402	.3911		
Total	(212)	85.8873			

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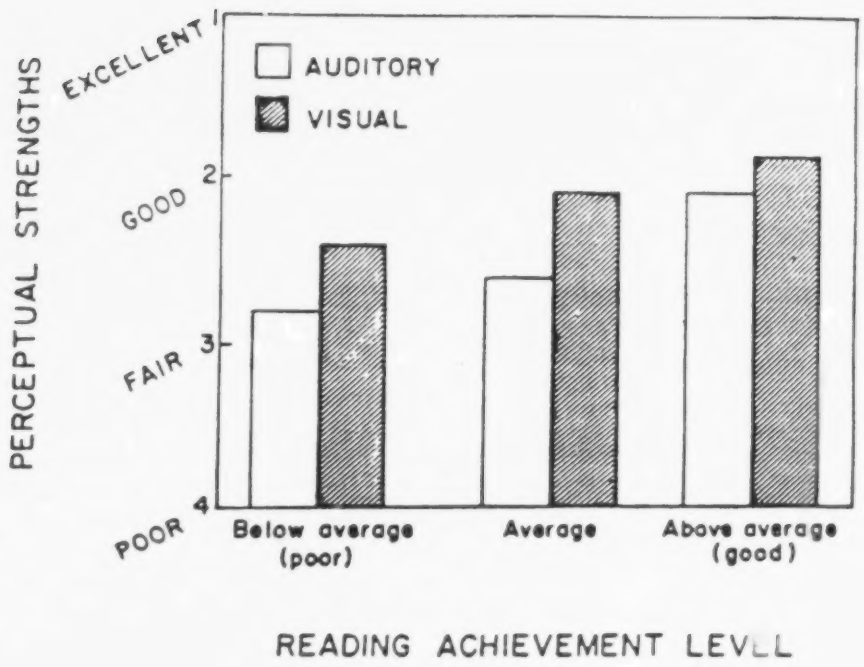

Figure 1. Second Graders' Visual and Auditory Perceptual Strengths by Achievement

Comparisons of the Perceptual Strengths of Good and Poor Readers

Second-graders' self-reported perceptual strengths clearly distinguished between the good and poor readers. (See Table 4 and 5, and Figure 1.) Good readers had signifcantly greater auditory ($p < .0002$) and visual ($p < .0007$) strengths than poor readers; poor reader reported higher tactile preferences. Overall, *all groups were strongly kinesthetic* and moderately tactile.

TABLE 4
MEAN PERCEPTUAL STRENGTHS AND PREFERENCES OF
GOOD, AVERAGE AND POOR READERS

Perceptual Strengths and Preferences	Reading Achievement Level	Mean	Standard Deviation	Number of Subjects
AUDITORY*	Poor	2.79	1.026	(53)
	Average	2.60	.935	(55)
	Good	2.11	1.068	(105)
VISUAL*	Poor	2.42	1.008	(53)
	Average	2.11	.786	(55)
	Good	1.86	.814	(105)
KINESTHETIC*	Poor	1.47	.575	(53)
	Average	1.36	.486	(55)
	Good	1.28	.470	(105)
TACTUAL*	Poor	2.08	.851	(53)
	Average	2.22	.917	(55)
	Good	2.15	.731	(105)

RSI Scoring Key

*Strengths:	*Preferences:
1=Excellent	1=Strong
2=Good	2=Moderate
3=Fair	3=Mild
4=Poor	4=None

TABLE 5
ANALYSIS OF VARIANCE:
AUDITORY AND VISUAL PERCEPTUAL STRENGTHS BY ACHIEVEMENT

Method	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	Significance
AUDITORY					
Between Groups	18.9192	(2)	9.4596	9.007	.0002
Within Groups	220.5456	(210)	1.0502		
Total	239.4648	(212)			
VISUAL					
Between Groups	11.1361	(2)	5.5680	7.540	.0007
Within Groups	155.0705	(210)	.7384		
Total	166.2066	(212)			

Overall Reading Styles Characteristics of Second-Graders

The second-graders' overall reading styles characteristics can be summarized as follows: perceptually students were *kinesthetic* (99%), *visual* (73%) *tactual* (64%), and *auditory* (50%). They preferred a reading *environment* that was *quiet* (58%), *informal* (55%), *highly organized* (65%). *Socially*, they were *adult-motivated* (69%), and *self-motivated* (64%), but *peer-motivated* (only 23%). Slightly more than half (51%) reported *a high level of persistence*. *Most students (64%) wanted many choices in their reading* with "some" to "much" *direction* (66%) and seldom wanted their work checked (54%). They preferred reading alone (72%), or with one peer (75%), to reading to their teacher (42%) or in a reading group (45%). *Their favorite time of day for reading was early morning (64%)* and *their least favorite time was evening* (26%).

Recommended Reading Methods and Materials for Second-Graders

The methods most recommended for the second-graders, overall, were the following: Carbo recorded-book (92%), individualized (72%), whole-word (63%), language-experience (52%), phonics (45%), and Fernald word-tracing (5%). (See Table 6 and Figure 3.) The most popular, recommended reading materials were roughly: reading games (99%), computers (93%), Carbo recorded-books (93%), audiovisual aids (92%), storybooks (73%), whole-word basals (63%), reading kits (59%), and activity cards (57%). The least recommended materials were phonic basals (45%), and workbooks (39%). (See Figure 2.)

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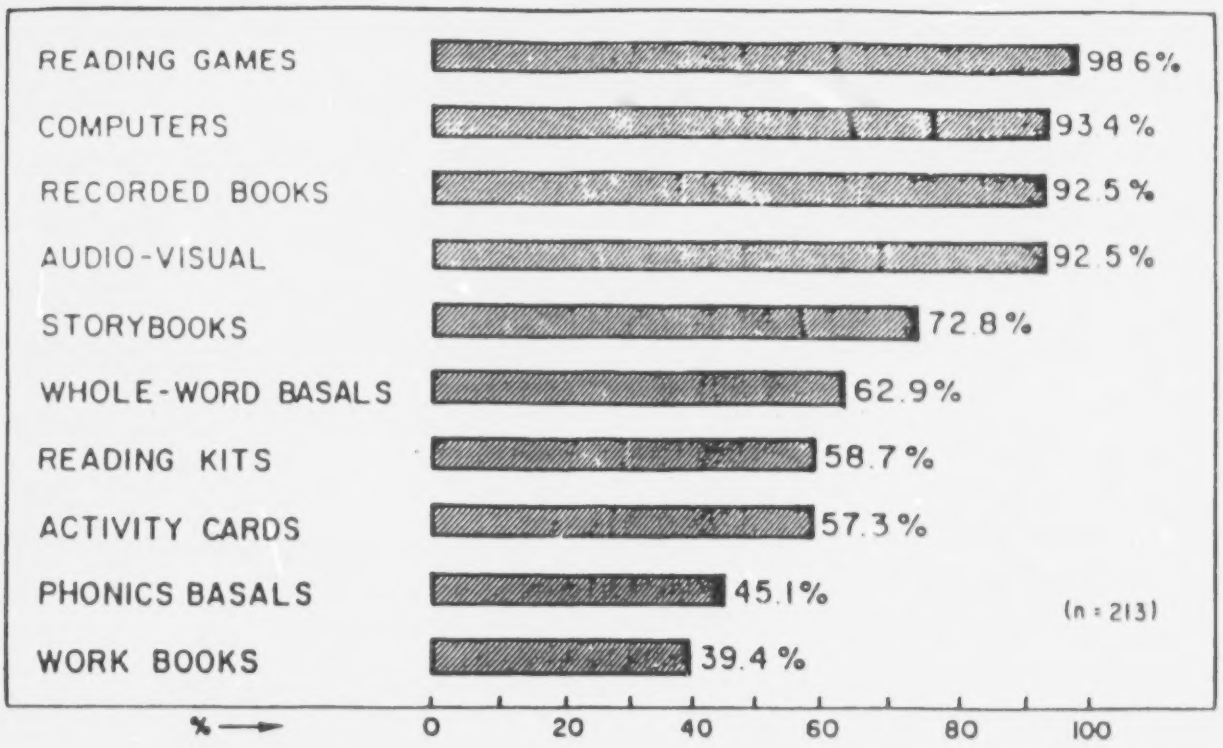

Figure 2. Second graders' recommended reading materials.

TABLE 6

FREQUENCY CHART: SECOND GRADERS' OVERALL READING METHOD RECOMMENDATIONS

(n=213)		Absolute Frequency	Relative Frequency (Percent)	Cumulative Frequency (Percent)
Phonics	Highly recommended	3	1.4	1.4
	Recommended	93	43.7	45.1
	Acceptable	55	28.8	70.9
	Not Recommended	62	29.1	100.0
Whole-Word	Highly recommended	8	3.8	3.8
	Recommended	126	59.2	62.9
	Acceptable	45	21.2	84.0
	Not Recommended	34	16.0	100.0
Individualized	Highly recommended	102	47.9	47.9
	Recommended	52	24.4	72.3
	Acceptable	43	20.2	92.5
	Not recommended	16	7.5	100.0
Language-Experience	Highly recommended	78	36.6	36.6
	Recommended	32	15.0	51.6
	Acceptable	58	27.2	78.9
	Not recommended	45	21.1	100.0
Fernald	Highly recommended	9	4.2	4.2
	Recommended	2	.9	5.2
	Acceptable	2	.9	5.2
	Not recommended	200	93.9	100.0
Recorded Book	Highly recommended	155	72.8	72.8
	Recommended	42	19.7	92.5
	Acceptable	16	7.5	100.0
	Not recommended	0	0.0	100.0

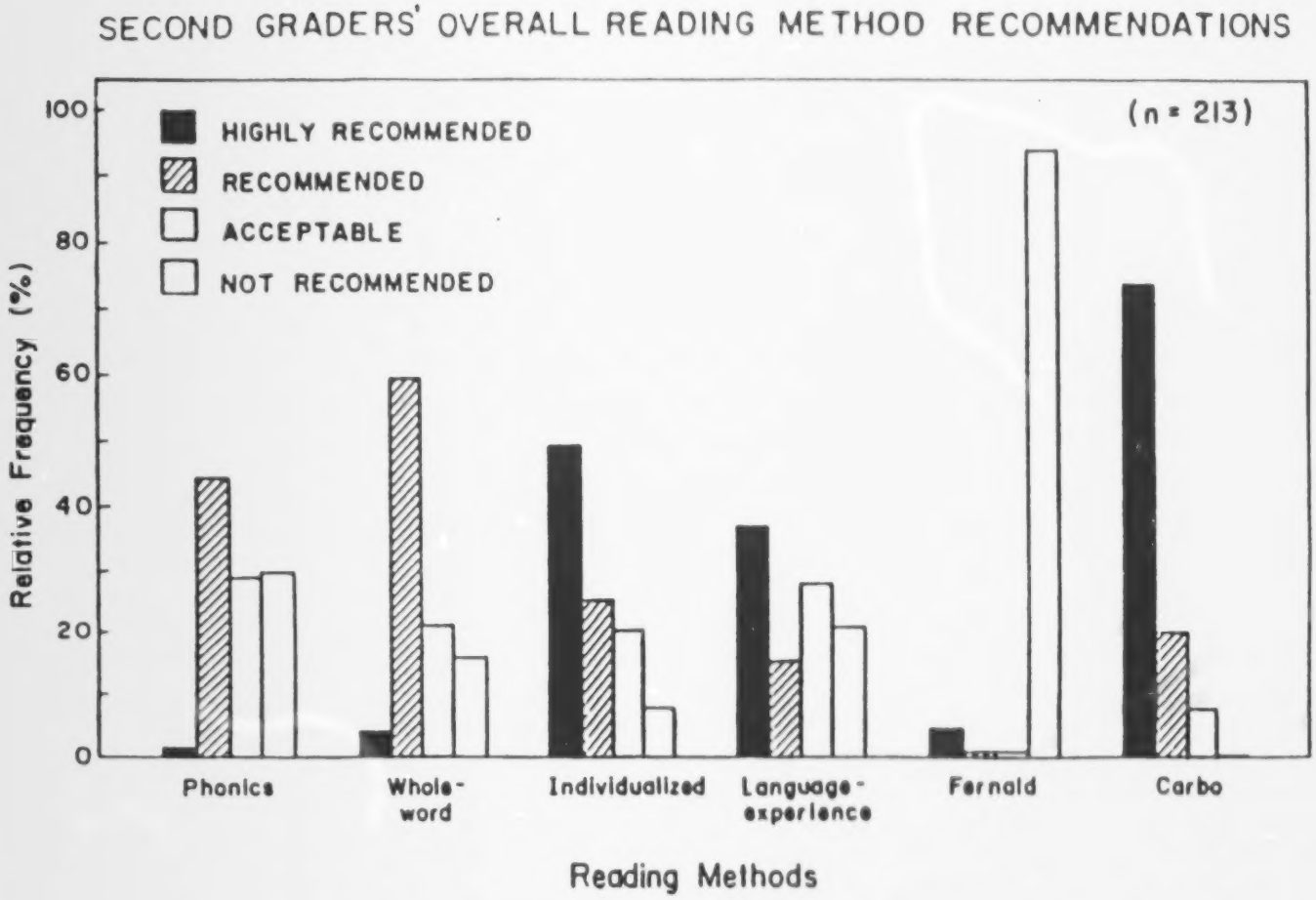

Figure 3. Second graders' overall reading method recommendations.

Variables That Correlated With Reading Achievement

Several variables correlated significantly ($p < .05$) with children's overall reading achievement. (See Table 7.) The better readers tended to be girls with high IQ scores, good to excellent auditory and visual strengths and strong to moderate kinesthetic preferences. They were self-motivated and wanted many choices in their reading materials. Better readers had negative preferences for reading with their teacher and peers, as well as for intake and mobility.

Reading methods positively correlated with reading achievement in this sample were: phonics, whole-word, individualized, and Carbo recorded book method. The Fernald method was negatively related to reading achievement. The better readers had preferences for the following materials: phonic basals, whole-word basals, reading kits, storybooks, reading games, audiovisual aids, and Carbo recorded books. *Note that the better readers had preferences for the types of materials that actually were utilized during their second-grade experience.*

Perception -- the reading style element of greatest importance in beginning reading -- was found to be as significantly correlated to reading achievement as IQ. The strength of this reading styles information on the Reading Styles Inventory is its diagnostic value to the classroom teacher.

TABLE 7
CORRELATION COEFFICIENTS OF READING ACHIEVEMENT

	r	p		r	p
Sex	.215	.001	Whole-Word Method	-.174	.006
IQ	.428	.001	Individualized Mthd	-.249	.001
Auditory Strengths	-.268	.001	Language-Experience	-.059	.196
Visual Strengths	-.261	.001	Fernald	.132	.027
Tactual Preferences	.042	.271	Recorded Book Method	-.257	.001
Kinesthetic Pref.	-.148	.015	Phonic Basals	-.199	.002
Self-Motivation	-.147	.016	Whole-Word Basals	-.174	.005
Choice	-.131	.028	Reading Kits	-.158	.011
Reading to Teacher/Peer	-.124	.036	Storybooks	-.253	.001
Intake	.191	.003	Reading Games	-.143	.019
Mobility	.199	.002	Audio-Visual Aids	-.219	.001
Phonic Method	-.199	.002	Recorded Books	-.257	.001

r = correlation coefficients
p = level of significance

Note: Negative reading style variable correlations denote positive relationships due to the nature of the coding scale.

Conclusions

In this research the most successful readers in all three groups had the highest reading match for their current treatment. Conversely, the poorest readers had the greatest mismatch. When the children's reading styles recommendations were considered over the full range of achievement, and among several different methods, significant differences were found between the good and poor readers for the following methods: phonics, whole-word, individualized, and Carbo recorded book. In all instances, the good readers received the highest recommendations, ranging from "acceptable" for phonics to "highly recommended" for Carbo recorded book.

An overall conclusion to be drawn from this study is that teachers of young students need to be made aware of the wide range of individual differences in learning preferences that typically exist within each primary-level classroom. Moreover, results of this study indicate that differences in *how* children learn to read are far more significant than differences in IQs. This raises serious questions about ability grouping for reading.

The results of this investigation strongly indicate that the good readers in this study had a better chance of being successful readers than the poor readers, first because they were better matched than the poorer readers were on their primary methods, and second, because the good readers had more strengths, choices, and opportunities to be successful than the poorer readers, regardless of their assigned reading treatment.

This research suggests that learner characteristics interacting with instructional demands can make a difference in the ease with which children learn to read. Apparently, some children can learn through a variety of methods, as suggested by the reading recommendations for the good readers. Poor readers, on the other hand, had limited strengths, fewer recommended methods, and more specific interventions indicated. They appear to be "at-risk" students in need of particular reading approaches that are not provided during the first and

second grade.

Phonics -- an analytic method of teaching reading that requires good auditory strengths -- was not recommended for the subjects in this sample in two instances: in the mixed-treatment group, and for all second-graders reading below instructional reading level. Moreover, the underachieving readers -- and the poorest readers in this study -- had significantly poorer auditory and visual strengths than the good readers. Additionally, the poorest readers in this study exhibited a significant preference for the Fernald method, which is a global, tactile, method of reading instruction.

These findings stand in strong contradiction to recommendations made in *Becoming A Nation of Readers* (Anderson, et al., 1985), and *What Works* (1986). These two widely hailed books suggest that every student in the primary grades -- and most particularly the "at-risk" students -- should learn phonics. *Overall, the reading styles of the poor readers in this study indicated that they were global, strongly kinesthetic, moderately tactual, and had good visual and only fair auditory strengths.*

By contrast, a reading styles match with the phonic method requires that students be strongly analytic and possess at least good auditory and fair visual strengths, attributes not characteristic of the poor readers in this study. *Recommended methods that matched the poor readers' reading styles were Carbo recorded book, individualized, and language experience.* The whole-word method, used often with the poor readers in this study, was only an acceptable match. Phonics was not recommended. *What this study strongly suggests is that there exists a strong discrepancy between the conventional wisdom that phonics is beneficial for all students and the results of this study.*

According to the RSI profiles of the young readers in this study, a variety of global, multisensory methods and materials that matched the subjects' styles should have been used, in addition to basal instruction. That recommendation has been made by a number of researchers, including Carbo (1983b, c, d), Carbo, Dunn, and Dunn (1986), and Mason and Au (1986). In addition, the reading styles of the second-graders in this

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study indicate that more storybooks and fewer workbooks be offered. This finding concurs with the suggestions of *First Lessons* (1986).

This research corroborates the work of child developmentalists like David Elkind (1986), who observed:

> young children learn best through direct contact with their world rather than through formal education involving the inculcation of symbolic rules. The fact of this difference is rooted in such giants of child study as Froebel, Montessori, and Piaget, and it is consistently supported by the findings of research in child development (p. 631).

Child psychiatrist, Bruno Bettelheim (1981) levels one of the strongest indictments against overuse of an analytic, drill-intensive approach to reading instruction:

> Word Recognition . "decoding" ... deteriorates into empty rote learning when it does not lead directly to the reading of meaningful content. The longer it takes the child to advance from decoding to meaningful pleasure in books, the more likely it becomes that his pleasure in books will evaporate . The child must become convinced that the skills are only a means of achieving a goal, and the only goal of importance is to become literate -- that is, to enjoy literature and benefit from what it has to offer.*

To summarize, at the risk of some redundancy, the following points deserve articulation:

- An overriding conclusion from this study is that *reading instruction and remediation should be based on the learning strengths of students*, not on their weaknesses. Modeling reading programs on the basis of deficiencies and what works for good readers serves to place many learners at risk.
- Success in learning to read is related to how well instructional approaches or treatments matched how learners prefer to learn.

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* This passage has been added to the original paper.

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- On the basis of this research the approaches to reading instruction used by most schools is a prescription for failure for those students whose learning preferences don't match the methods used. Thus it may be said On the basis of the findings of this study traditional approaches to reading as represented in the best-selling basal readers is a self-fulfilling prescription for poor readers to remain unsuccessful in their reading quest.

- Good readers have a big window of opportunity when it comes to learning to read the probability is high that they will become successful readers regardless of what approach is used. For this reason, it should come as no surprise that analytical approaches favored by most basal readers -- with their stress on phonics and whole-word approaches -- would prove efficacious for these students.

- Poor readers, on the other hand, look through a much narrower window of opportunity when it comes to learning to read -- and because the approaches to reading instuction, favored by all schools, failed to match the learning preferences of poor readers, learning to reading instruction proved to be highly unproductive.

The findings reported here also support Carbo's recommendations (1987c) that whole-language reading approaches should be incorporated into reading programs for primary children. The focus of the whole-language approach is high-interest children's literature and holistic instructional methods. According to Carbo (1987b), the work of child developmentalists, reading styles research and the "extraordinary success rate of the holistic reading programs in Australia, New Zealand, and Canada for primary-level youngsters ... attest to the global/tactile/kinesthetic nature of young children."

Important implications for teacher training can be drawn from this study. Teachers of young students need to be made aware of the wide range of individual differences and rates of development. Rather than ability grouping, it appears that grouping students for reading based on their reading styles would enhance learning. In addition, research has indicated that learning style inventories (Sorvillo, 1984) can provide teachers with information regarding the needs of individual students, information not apparent from conventional classroom observation. When teachers and students have shared information about learning styles, it has empowered both to seek those variables that facilitate the greatest learning.

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This investigation has taken some first steps to indicate what reading methods are both preferred by and successful with young readers based on reading styles matches between student characteristics and instructional demands. The Reading Styles Inventory was found to distinguish among the reading style strengths and preferences of good, average, and poor readers -- and it provided clear evidence that students' reading styles should be identified and matched. The results of this study strongly suggest that methods and materials that are compatible with individual reading styles can help to promote more success and less failure for young readers

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